the vicinity of the masses of spawn referred to by Dr. Günther. I never saw a species of the small *Ixalus* near Colombo, and, indeed, never at a lower elevation than the forests of the interior; it cannot, therefore, be spawn of one of these, as suggested by Dr. Günther. 7th. The most common tree-frog in Ceylon, the *Polypedates maculatus*, is also not uncommon in Colombo, where the natives have a dread of it, as they believe that if it leaps on children they become consumptive and attenuated like these tree-frogs. These frogs are often found attached to the backs of doors, and leap upon the bodies of people who attempt to open and shut the doors. I feel pretty certain that the masses of spawn referred to are the produce of this tree-frog; and I shall thank any one for a fresh specimen of the spawn, or for information as to where it can be seen.

The other tree-frog with the large spawn attached to its abdomen, and which is most correctly figured in the plate accompanying Dr. Günther's paper, was sent to me some years ago by Mr. Perera, then conductor on the Poojagodde estate in the Ramboda district, and from a high elevation. I considered this frog to be identical with one described lately by Dr. Günther as *Polypedates nanus*; and in a small bottle full of these frogs in my possession I see some large grains of spawn identical with those sent by me to Dr. Günther. I know the *Polypedates reticulatus* as a very distinct one sent to me some years ago by Mr. J. Catto from Illagolla; but of course there can be no disputing Dr. Günther's authority as to the proper names of frogs first described by himself. Respecting the frogs which I supposed to be *P. reticulatus*, Mr. J. Catto wrote to me on the 7th of October, 1872:—"These frogs do not go into the water, but sit upon wet stones or on damp walls, and on the edges of bath-tubs, and jump upon you when you go near and disturb them, squirting a disagreeable liquid at the same time. Nasty brutes! I wish I could send you every one about the place."

With reference to Dr. Günther's remark as to whether the specimen with the spawn attached to it was caught in the water or out of it, I am sorry I cannot say; but some correspondent may be fortunate enough to clear up this matter. I need not say how grateful I shall feel for specimens of frogs from all parts of Ceylon. These are best preserved in arrack, as they shrivel up and get hard in strong spirits.

There was a very interesting paper by the Rev. Dr. Boake some years ago on one of our freshwater fishes, which was described as securing its spawn inside its capacious throat when there was any danger to be apprehended. I do not know if this one belongs to the genus of fishes referred to by Dr. Günther.

Colombo, 11th July, 1876. W. Ferguson, F.L.S.

Remarks on Fossils from the Ashley Phosphate-Beds.

Prof. Leidy observed that the so-called phosphate-beds of Ashley river, South Carolina, were remarkable for the singular admixture of multitudes of fossils of different ages, from the early Tertiary period inclusive down to the present epoch. The phosphatic nodules,

for which the beds are explored, appear to have had their origin from the Eocene rocks beneath; these have also contributed numerous remains of marine vertebrates, especially of squalodonts, reptiles, and fishes. Mingled in the sand and clay with the phosphatic nodules and bones of Eocene animals are innumerable remains of cetaceans, sharks, and other marine animals of perhaps the middle and later Tertiary ages. Added to these are multitudes of remains of both marine and terrestrial animals of the Quaternary period. There are found pell-mell together bones of Eocene squalodonts, animals related to the whales and seals, hosts of teeth of the great shark *Carcharodon angustidens*, myriads of teeth of the giant of sharks of the Tertiary period the *Carcharodon megalodon*, bones and teeth of whales and porpoises, and abundance of remains of elephant, mastodon, megatherium, horse, &c., and occasionally the rude implements of our more immediate ancestors.

From among a collection of fossils from the Ashley phosphate-beds, recently submitted to his inspection by Mr. J. M. Gliddon, of the Pacific Guano Company, the specimens were selected which lie upon the table. One of these is a well-preserved tooth of a megatherium; another a characteristic portion of the skull of a manatee; a third a complete tusk of the walrus, indicating a still further point south for the extension of this animal than had been previously known; fourth, a huge tooth of a cetacean allied to the sperm-whale, probably the same as those from the crag of Antwerp ascribed to *Dinoziphius*. Besides these there are the beaks of three cetaceans of the little-known family of the Ziphioids; these are porpoise-like animals, without teeth in the upper jaw, and usually with but a single pair of teeth in the lower jaw. The beaks, composed of the coossified bones of the face, are remarkable for their ivory-like density, which probably rendered them available as weapons of defence.

A fourth beak from the same locality, presented by Mr. C. S. Bement, belongs to a different species of the same family. The beaks and some associated fossils will form the subjects of a paper shortly to be presented to the Academy.

The beaks have been referred to species with the following names and brief distinctive characters:—

Choneziphius trachops.—Supravomerian canal open. Intermaxillaries coossified and forming a crest along the middle of the beak extending to the interval of the prenarial fossæ. Maxillaries with a rugged tract at the upper part of the base of the beak.

Choneziphius liops.—Beak proportionally of less length than in the preceding. Supravomerian canal and intermaxillaries the same, except that the crest of the latter in front is acute. Maxillaries without the rugged tract at base.

Eboroziphius cœlops.—A new genus as well as species. Beak above forming a broad gutter as in *Hyperoodon*, and not divided by an intermaxillary crest as in the preceding. Maxillaries with prominent lateral crests at base, convex inwardly. Right prenarial fossa occupied by a thick osseous disk. Intermaxillaries coossified. Supravomerian canal open.

Belemnoziphius prorops.—Beak solid, with all traces of the original separation of the constituent bones and the ossified mesethmoid cartilage obliterated.—*Proc. Acad. Nat. Sci. Philad.*, May 9.

Reply to some Observations by Mr. Gwyn Jeffreys on the Cruise of H.M.S. 'Valorous' in 1875. By G. C. Wallich, M.D.

To the Editors of the Annals and Magazine of Natural History.

Gentlemen,—It is mentioned amongst the "British Association Notes" of the 'Athenæum' for September 16th that, in a paper read at the Meeting by Mr. Gwyn Jeffreys on the results of the voyage of H.M.S. 'Valorous' to Disco in 1875, he described "the occurrence of large and small stones in his dredgings, and said that telegraphic cables had usually been constructed too much on the supposition that the sea-bottom was always soft; consequently they are very liable to damage when this is not the case."

During the voyage of H.M.S. 'Bulldog' in 1860 to the Faroe Islands, Iceland, Greenland, and Labrador, stones and gravel were repeatedly brought up from very great depths. Moreover a living *Serpula*, within its tube, which had evidently but then been broken off from its point of attachment to a stone or rock, together with a dead *Serpula*-shell still adherent to a granitic stone of considerable size, were obtained, nearly midway between the Faroes and Iceland, under conditions which would seem to indicate the presence of a deep-seated current, or rather drift, of sufficient power at all events to prevent any material accumulation of muddy deposit in that locality.

These several facts and their extreme importance in relation to deep-sea telegraphy were on various occasions referred to by me between the years 1860 and 1864, namely:—in my 'Notes on the presence of Animal Life at great Depths in the Ocean,' 1860, pp. 30, 31, & 37; in my 'North-Atlantic Sea-bed,' 1862, pp. 2–7 & 147; in my paper read before the Royal Geographical Society in 1863*; in my "Outline of a Scheme for a systematic Survey of the Sea-bed," laid before the Council of the Royal Geographical Society in 1863 (of which a reprint appeared in the 'Annals' for July of the present year, p. 80); and lastly, in a paper, "On the North-Atlantic Sea-bed," in the 'Quarterly Journal of Science' for January 1864.

I will confine myself to giving the following extract from the paper last referred to:—

"There is one point to which I must invite attention, inasmuch as its importance can hardly be overestimated; and yet, strange to say, it has heretofore been almost entirely overlooked.

"In some of the deeper soundings both of the North and Mid-Atlantic routes†, fragments of rock have been brought up. How is the occurrence of these to be accounted for? and what does it

* On that occasion I exhibited an instrument, which I called a *Perimeter*, designed by me for the purpose of readily detecting the occurrence of rocky or stony bottom at any depth.

† The occurrence in the Mid-Atlantic of a few "small stones" was noted in the tabulated lists of soundings taken by Commander Dayman, R.N., in the Atlantic in 1867.